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ASSIGNMENT 2

Title Study of different OSes for Raspberry Pi / Beagle Bone

Problem Statement Study of different OSes for Raspberry Pi / Beagle Bone. Understanding the process of OS installation on Raspberry Pi/ Beagle Board.

Objective
- To understand the different OSes for Raspberry Pi / Beagle
- To understand the installation process

Outcome Students will be able to install OS on Raspberry Pi

S/W & H/W
- Raspberry Pi / Beagle board
- Fedora OS 20, 8 GB RAM, 500 GB HDD, Monitor, Keyboard, Mouse

Theory

~~The Raspberry Pi~~

- The Raspberry Pi doesn't ship w/ an OS. For that, you need NOOBS (New out of the box software)
- It is an OS manager that makes it easier to download, install and setup Raspberry Pi.
- On first boot, a selection of OSes such as Raspian, RISC OS etc are provided

Steps for installation
- Extract NOOBS and transfer to formatted SD Card Drive
- Plug the SD card and peripherals to Raspberry Pi.
- Boot and select an OS (preferably Raspbian) & install
- On completion, set date-time, enable camera and/or

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create users in the config menu. Press Tab to finish

SSH into Raspberry Pi

- Enable SSH in Raspberry Pi
- Find IP address of Raspberry Pi (likely local address like between 192.168.x.x or 10.x.x.x)
- SSH into Raspberry Pi w/ default username/password - "pi" and "raspberry" respectively

Basic features of Raspbian

- 32 bit Debian based OS
- Has other versions - Raspbian Buster and Stretch
- Under active development
- Highly optimized for low-performance ARM CPUs

Ubuntu MATE

- Familiar desktop environment
- Can prototype Homebrew ARM v7 or v8 based IOT devices
- Can build and test iapps as snaps.

Steps for Beagle Bone

- Update board w/ latest s/w.
- Install SD card programming utilities and write image
- Start Beagle Board
- Establish connection using SSH

Conclusion

We understood and studied various OS required for Raspberry Pi and Beagle Bone and learnt ~~various~~ installation and configuration steps.